What is claimed is:

1. A fluid flow control device comprising:

a rotatable component for rotating about an axis in response to fluid flow from an inlet port of the fluid flow control device; and

a float component positioned within the rotatable component and connected to the rotatable component by a hinge, wherein the hinge provides for movement of the float component relative to the rotatable component between

(i) an open position that enables fluid flow from the inlet port to an outlet port of the rotatable component, and

(ii) a closed position that restricts fluid flow through a flow passage from the inlet port to the outlet port, the flow component being moveable to the closed position in response to a fluid from the inlet port having a first density and a centrifugal force being applied to the float component by rotating the rotatable component about the axis, and the float component being movable to the open position in response to the fluid from the inlet port having a second density and a centrifugal force being applied to the float component by rotating the rotatable component about the axis, the first density being different from the second density.

2. The fluid flow control device of claim 1, wherein the fluid flow control device further includes a circular housing in which the rotatable component is positioned; and the axis is a central axis extending through a cross-sectional center of the circular housing.

3. The fluid flow control device of claim 2, wherein the rotatable component comprises a plurality of fluid pathways between the inlet port and the outlet port, each respective fluid pathway of the plurality of fluid pathways having a respective chamber and a respective float

component disposed in the respective chamber, connected to the rotatable component by a respective hinge, for enabling or disabling fluid flow through the respective fluid pathway based on a density of a fluid from the inlet port.

4. The fluid flow control device of claim 1, wherein the float component includes a first portion on one side of the hinge and a second portion on an opposite side of the hinge from the first portion, wherein the first portion is larger than the second portion, and wherein the first portion obstructs the flow passage with the float component in the closed position.

5. The fluid flow control device of claim 4, wherein

the hinge includes a pivot rod mounted to the rotatable component and passing at least partially through the float component; or

the hinge includes at least one hinge extensions extending from the float component seated in a respective recess in the rotatable component.

6. The fluid flow control device of claim 4, wherein the hinge includes a pivot rod mounted to the rotatable component that is seated in an open ended hinge recess of the float component.

7. The fluid flow control device of claim 1, wherein the hinge includes a flexure member connecting between the float component and the rotatable component.

8. The fluid flow control device of claim 1, wherein the float component includes a first portion on one side of the hinge and a second portion on an opposite side of the hinge from

the first portion, wherein the first portion is larger than the second portion, and wherein the second portion obstructs the flow passage with the float component in the closed position.

9. The fluid flow control device of claim 8, wherein the second portion of the float component includes a counterweight that is more dense than the first portion of the float component.

10. The fluid flow control device of claim 9, wherein the counterweight obstructs the flow passage with the float component in the closed position.

11. The fluid flow control device of claim 9, wherein part of the second portion of the float component between the counterweight and the flow passage obstructs the flow passage with the float component in the closed position.

12. The fluid flow control device of claim 9, wherein the counterweight is adjustably mounted to the float component to allow tuning of behavior of the float component.

13. The fluid flow control device of claim 1, wherein the float component is movable from the open position to the closed position in response to the fluid from the inlet port being predominantly water, and wherein the float component is movable from the closed position to the open position in response to the fluid from the inlet port being predominantly a hydrocarbon.

14. A system comprising:

a housing having an inlet port and an outlet port;

a rotatable component positioned in the housing and being rotatable about a central axis of the rotatable component in response to fluid flow from the inlet port; and

a float component disposed in a chamber of the rotatable component and connected to the rotatable component by a hinge, wherein the hinge provides for movement of the float component relative to the rotatable component between

(i) an open position that enables fluid flow from the inlet port to the outlet port, and

(ii) a closed position that restricts fluid flow through a flow passage from the inlet port to the outlet port, the float component being movable from the open position to the closed position in response to a fluid from the inlet port having a first density and a first force being applied to the float component by rotating the rotatable component about the central axis, and the float component being movable from the closed position to the open position in response to the fluid from the inlet port having a second density and a second force being applied to the float component by rotating the rotatable component about the central axis.

15. The system of claim 14, wherein the rotatable component comprises a plurality of fluid pathways between the inlet port and the outlet port, each respective fluid pathway of the plurality of fluid pathways having a respective chamber and a respective float component disposed in the respective chamber, connected to the rotatable component by a respective hinge, for enabling or disabling fluid flow through the respective fluid pathway based on a density of a fluid from the inlet port.

16. The system of claim 14, wherein the float component includes a first portion on one side of the hinge and a second portion on an opposite side of the hinge from the first portion,

wherein the first portion is larger than the second portion, and wherein the first portion obstructs the flow passage with the float component in the closed position.

17. The system of claim 16, wherein the hinge includes a pivot rod mounted to the rotatable component and passing at least partially through the float component.

18. The system of claim 17, wherein the hinge includes a pivot rod mounted to the rotatable component that is seated in an open ended hinge recess ~~on pen ended hinge recess~~ of the float component.

19. The system of claim 14, wherein the hinge includes a flexure member connecting between the float component and the rotatable component.

20. The system of claim 14, wherein the float component includes a first portion on one side of the hinge and a second portion on an opposite side of the hinge from the first portion, wherein the first portion is larger than the second portion, and wherein the second portion obstructs the flow passage with the float component in the closed position.

21. The system of claim 20, wherein the second portion of the float component includes a counterweight that is more dense than the first portion of the float component.

22. The system of claim 21, wherein the counterweight obstructs the flow passage with the float component in the closed position.

23. The system of claim 21, wherein part of the second portion of the float component between the counterweight and the flow passage obstructs the flow passage with the float component in the closed position.

24. The system of claim 21, wherein the counterweight is adjustably mounted to the float component to allow tuning of behavior of the float component.

25. The system of claim 14, wherein the outlet port and a bypass port are coupled to a vortex valve of an inflow control device.

26. The system of claim 25, wherein the inflow control device is positioned in a well tool usable in a wellbore.

27. The system of claim 14, wherein the float component is movable from the open position to the closed position in response to the fluid from the inlet port being predominantly water, and wherein the float component is movable from the closed position to the open position in response to the fluid from the inlet port being predominantly a hydrocarbon.

28. A method comprising:

receiving, by a fluid flow control device, fluid through an inlet port of the fluid flow control device;

rotating, by the fluid flow control device, a rotatable component about a central axis in response to a portion of the fluid flowing from the inlet port;

hinging a float component positioned within the rotatable component to a closed position based on the fluid from the inlet port having a first density and a first force being applied to the float component as the rotatable component rotates about the central axis;

preventing, by the float component in the closed position, the fluid from flowing from the inlet port to an outlet port of the fluid flow control device;

hinging the float component to an open position based on the fluid from the inlet port having a second density and a second force being applied to the float component as the rotatable component rotates about the central axis; and

enabling, by the float component in the open position, the fluid to flow from the inlet port to the outlet port.